

MINIMAT-EC

straight handle design - torque ranges between 0.01 - 25 Nm
pistol-grip design - torque ranges between 0.06 - 18 Nm
angle head design - torque ranges between 0.4 - 25 Nm

The flexible EC screwdriver for the highest standards

- flexible
- data recording
- highly accurate
- ESD-capable versions available

The EC screwdriver with brushless drive technology combined with the AST series screwdriver controller offers maximum flexibility and process control. The integrated torque and angle measurement system enables precise control of the screw assembly process and guarantees the highest accuracy and reliable documentation of important process parameters.

Through the combination of different screwdriving strategies with flexible tightening parameters, multi step screw run-down sequences can be realised in one assembly cycle.

Handheld Screwdriver electric

Screwdriving System consisting of the components:

- EC Screwdriver
- Motor cable
- Sequence Controller
- Power supply cable

Controller AST5

Controller AST11

ADVANTAGES

DEPRAG EC SCREWDRIVER – flexible for the highest standards

The DEPRAG EC screwdrivers allow free programming of the screw tightening process. Within the power range of the selected tool, the torque value, speed, stand-by and direction of rotation can be adjusted individually to the assembly requirement.

Outstanding features of handheld EC screwdrivers are their high torque precision and the large range of control functions – perfect conditions for process security and control on highest level.

The brushless electric motors provide low maintenance operation. They are ideally suited for the tightening of screws due to their outstanding dynamics and an achievement of high peak torque values. The integrated torque control - based upon precise measurement of the motor current along with the evaluation of other dynamic factors - as well as angle measurement, allows precise control of multistage screwdriving processes and documentation of the resulting values.

With these screwdrivers a torque accuracy of < 2% standard deviation and a Cmk value of ≥ 1.67 at a tolerance of $\pm 10\%$ is possible. In other words a Cmk value of 1.67 means there is an error rate of just 0.6 errors per one million assemblies.

The operation of the screwdriver requires a programmable sequence controller (AST) with integrated amplifier and a motor cable (available in different lengths). The sequence controller offers standard screwdriving programs for tightening screws to a specific torque value respectively loosening at a specific angle value.



It is necessary to use a torque support (e.g. stand, handgrip) for maximum torque: over 4 Nm for straight design, over 10 Nm for pistol grip and over 60 Nm for angle design. Suitable torque supports can be found in our brochure D3345E.

DEPRAG SEQUENCE CONTROLLER AST5 – compact size for torque upto 2 Nm



- highest precision for lowest torque ranges
- small size for confined spaces
- colour touch screen with 4.3" TFT display
- torque control/angle monitoring
- angle control/torque monitoring
- friction-torque testing and friction-controlled fastening to torque
- 100 freely programmable sequence programs
- can be used in combination with DEPRAG feeders

The DEPRAG sequence controller AST5 is the ideal controller for manual screw assemblies in combination with the tried and tested DEPRAG EC screwdrivers of the MINIMAT-EC (size 22) series within a torque range of 0.01 Nm – 2.0 Nm.

Operator friendly: The sequence controller already includes standard screwdriving programs for tightening to torque and loosening to angle. Parameters can be directly altered to suit screwdriving tasks using the touch screen. The AST5 allows free programming of your manual screwdriving sequences for hand-held screwdriving tools. If required, further screwdriving programs can quickly and easily be set-up using the existing standard program.

High number of programs: Use the colour TFT touch screen for fast access to the 100 programmable user programs.

Based on web browser: To set parameters and access additional control functions, simply use any common web browser or the integrated key pad. Additional software is not required.

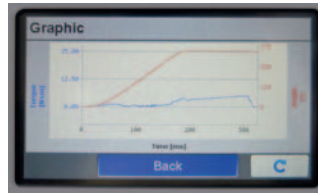
Small size: Due to its small size the controller is particularly suitable for use in manual work stations where there are confined spaces.

Storage, documentation and evaluation: The AST5 records the screwdriving results for the last 7 production days. Additional features include the graphic display of screwdriving graphs, integrated PLC functions, comprehensive analysis options and the option of combination with an automatic screw feeding machine. A software update service is optionally available. Also available are comprehensive software packages for screw joint analysis, documentation and process data collection.

Examples of the functions display on the AST5



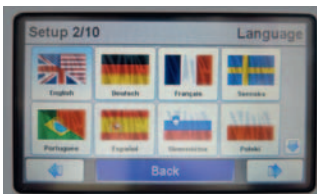
Main menu



Graphic display of screwdriving graphs



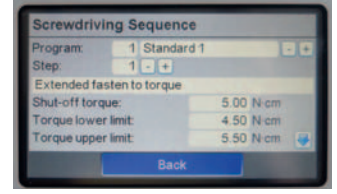
Statistics display



Web interface and controller display (available in 13 languages)



Program selection



Program set-up

DEPRAG SEQUENCE CONTROLLER AST11 – flexible EC technology for the highest standards

- highest precision over the entire torque range
- torque control/angle monitoring
- angle control/torque monitoring
- friction-torque testing and friction-controlled fastening to torque
- 16 freely programmable sequence programs
- comprehensive analysis functions
- communication port: Ethernet - for parameterisation of the web server
- PLC: inputs/outputs
- integrated RS232 port with varied options:
 - 4 fieldbuses available: Profibus, Profinet, EtherCat, EthernetIP
 - direct connection of a barcode scanner
 - connection of a serial printer
- integrated functions for process control
- can be used in combination with DEPRAG feeders
- for manual and stationary applications



The DEPRAG controller AST11 is the ideal sequence controller for manual and stationary screw assemblies together with the tried and tested DEPRAG EC screwdrivers MINIMAT-EC.

Operator friendly: The sequence controller already includes standard screwdriving programs for tightening to torque and loosening to angle. Parameters can be directly altered to suit screwdriving tasks using the controller's keypad. The AST11 allows free programming of your screwdriving sequences for hand-held or stationary screwdriving tools. If required, further screwdriving programs can quickly and easily be set-up using the already existing basic program.

Freely programmable: Fast access to the 16 programmable screwdriving programs is enabled by the integrated display- and operating unit.







Based on web server: To set parameters and access additional control functions, simply use any common web browser or the integrated key pad. Additional software is not required.

Various communication options: Several communication options, especially for stationary use, via PLC and optionally RS232, Profinet, Profibus, EtherCat, Ethernet IP.

Saving, documentation and evaluation: The AST11 displays the screwdriving results of the last 7 production days. Additional software modules offer graphic display of screwdriving graphs, integrated PLC functions, comprehensive analysis options via a PC. Combination with an automated DEPRAG screw feeder is also possible. A software update service is optionally available.

SYSTEM COMPONENTS

MINIMAT-EC Screwdriver handheld, Straight handle design, size 22, ESD-capable

| | | | | | | | |
|---|---|-------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Screwdriver Push-to-start |  | Type Part no. | 320EGA22-00005 420555G | 320EGA22-00012 420555F | 320EGA22-00025 420555A | 320EGA22-00050 420555B | 320EGA22-00080 420555C |
| Screwdriver Lever start |  | Type Part no. | 320EGT22-00005 419900G | 320EGT22-00012 419900F | 320EGT22-00025 419900A | 320EGT22-00050 419900B | 320EGT22-00080 419900C |
| Screwdriver In combination with feeder |  | Type Part no. | – – | – – | 320EGZ22-00025 424408A | 320EGZ22-00050 424408B | 320EGZ22-00080 424408C |
| Torque min. | | Nm / in.lbs | 0.01 / 0.09 | 0.03 / 0.27 | 0.05 / 0.45 | 0.1 / 0.9 | 0.16 / 1.4 |
| Torque max. *) | | Nm / in.lbs | 0.05 / 0.45 | 0.12 / 1.06 | 0.25 / 2.2 | 0.5 / 4.4 | 0.8 / 7.1 |
| Speed min. | | rpm | 120 | 120 | 100 | 80 | 60 |
| Speed max. *) | | rpm | 1500 | 1500 | 2000 | 1600 | 1200 |
| Diameter | | mm / in. | 30.5 / 1.2 | 30.5 / 1.2 | 30.5 / 1.2 | 30.5 / 1.2 | 30.5 / 1.2 |
| Length | | mm / in. | 202 / 7.88 | 202 / 7.88 | 202 / 7.88 | 202 / 7.88 | 202 / 7.88 |
| Weight | | kg / lbs. | 0.55 / 1.21 | 0.55 / 1.21 | 0.55 / 1.21 | 0.55 / 1.21 | 0.55 / 1.21 |
| Noise level | | dB (A) | 60 | 60 | 60 | 60 | 60 |
| Line voltage (DC) | | V | 24 | 24 | 24 | 24 | 24 |
| Internal hex drive DIN ISO 1173 | | | B3 (3 mm) | B3 (3 mm) | B3 (3 mm) | B3 (3mm) | B3 (3mm) |
| Suitable inserting tools and connection parts with inserting end DIN ISO 1173 | | | A3 (3 mm) | A3 (3 mm) | A3 (3 mm) | A3 (3mm) | A3 (3mm) |
| Optional equipment: | | | | | | | |
| Spring sleeve cpl., without screw suction | Part no. | | 403280K | | | | |
| Spring sleeve cpl., with screw suction | Part no. | | 403280L | | | | |
| Support ring suitable for screwdrivers with push-to-start | Part no. | | 389775C | | | | |
| Screwdriver Push-to-start |  | Type Part no. | 320EGA22-00120 420555D | | | 320EGA22-00200 420555E | |
| Screwdriver Lever start |  | Type Part no. | 320EGT22-00120 419900D | | | 320EGT22-00200 419900E | |
| Screwdriver In combination with feeder |  | Type Part no. | 320EGZ22-00120 424408D | | | 320EGZ22-00200 424408E | |
| Torque min. | | Nm / in.lbs | 0.18 / 1.6 | | | 0.4 / 3.5 | |
| Torque max. *) | | Nm / in.lbs | 1.2 / 10.6 | | | 2.0 / 17.7 | |
| Speed min. | | rpm | 50 | | | 30 | |
| Speed max. *) | | rpm | 900 | | | 550 | |
| Diameter | | mm / in. | 30.5 / 1.2 | | | 30.5 / 1.2 | |
| Length | | mm / in. | 202 / 7.88 | | | 202 / 7.88 | |
| Weight | | kg / lbs. | 0.55 / 1.21 | | | 0.55 / 1.21 | |
| Noise level | | dB (A) | 60 | | | 60 | |
| Line voltage (DC) | | V | 24 | | | 24 | |
| Internal hex drive DIN ISO 1173 | | | F6.3 (1/4") | | | F6.3 (1/4") | |
| Suitable inserting tools and connection parts with inserting end DIN ISO 1173 | | | E6.3 (1/4") | | | E6.3 (1/4") | |
| Optional equipment: | | | | | | | |
| Spring sleeve cpl., without screw suction | Part no. | | 364672A | | | | |
| Spring sleeve cpl., with screw suction | Part no. | | 364672C | | | | |
| Support ring suitable for screwdrivers with push-to-start | Part no. | | 389775C | | | | |

*) as per VDI/VDE 2647 Directive

The motor cable, 2.5-meters long, is solidly connected to the screwdriver






size 22 with lever start and motor cable

Remark:

Details on our feeding systems can be found in brochure D3820E.

MINIMAT-EC Screwdriver handheld, Straight handle design, size 27, ESD-capable

| | | | | | | |
|---|---|-------------------------|--|---------------------------------------|---------------------------------------|--|
| Screwdriver Push-to-start |  | Type Part no. | 320EGA27-0010 434343B | 320EGA27-0018 434343E | 320EGA27-0022 434343C | 320EGA27-0040 434343D |
| Screwdriver Lever start |  | Type Part no. | 320EGT27-0010 424242B | 320EGT27-0018 424242E | 320EGT27-0022 424242C | 320EGT27-0040 424242D |
| Screwdriver In combination with feeder |  | Type Part no. | – – | 320EGZ27-0018 424735E | 320EGZ27-0022 424735C | 320EGZ27-0040 424735D |
| Torque min. | | Nm / in.lbs | 0.15 / 1.3 | 0.4 / 3.5 | 0.4 / 3.5 | 0.7 / 6.2 |
| Torque max. *) | | Nm / in.lbs | 1 / 8.85 | 1.8 / 15.9 | 2.2 / 19.5 | 4 / 35.4 |
| Speed min. | | rpm | 50 | 100 | 50 | 40 |
| Speed max. *) | | rpm | 1000 | 1000 | 700 | 400 |
| Diameter | | mm / in. | 30.5 / 1.2 | 30.5 / 1.2 | 30.5 / 1.2 | 30.5 / 1.2 |
| Length | | mm / in. | 267 / 10 ³³ / ₆₄ | 255 / 10 ³ / ₆₄ | 255 / 10 ³ / ₆₄ | 267 / 10 ³³ / ₆₄ |
| Weight | | kg / lbs. | 0.59 / 1.3 | 0.59 / 1.3 | 0.59 / 1.3 | 0.63 / 1.39 |
| Noise level | | dB (A) | 60 | 60 | 60 | 60 |
| Line voltage (DC) | | V | 48 | 48 | 48 | 48 |
| Internal hex drive DIN ISO 1173 | | | B3 (3mm) | F6.3 (1/4") | F6.3 (1/4") | F6.3 (1/4") |
| Suitable inserting tools and connection parts with inserting end DIN ISO 1173 | | | A3 (3mm) | E6.3 (1/4") | E6.3 (1/4") | E6.3 (1/4") |
| Optional equipment: | | | | | | |
| Spring sleeve cpl., without screw suction | Part no. | 403280K | | | 364672A | |
| Spring sleeve cpl., with screw suction | Part no. | 403280L | | | 364672C | |
| Support ring | | 389775C | | | 389775C | |



*) as per VDI/VDE 2647 Directive



size 27 with push-to-start

size 27 with lever start

MINIMAT-EC Screwdriver handheld, Straight handle design, size 36, ESD-capable

| | | | | | | | | |
|---|---|-------------------------|--|--|--|--|--|--|
| Screwdriver Push-to-start |  | Type Part no. | 320EGA36-0040 404866A | 320EGA36-0060 404866B | 320EGA36-0090 404866F | 320EGA36-0120 404866C | 320EGA36-0180 404866D | 320EGA36-0250 404866G |
| These types are also available in combination with feeder | | | | | | | | |
| Screwdriver Lever start |  | Type Part no. | 320EGT36-0040 425876A | 320EGT36-0060 425876B | 320EGT36-0090 425876F | 320EGT36-0120 425876C | 320EGT36-0180 425876D | 320EGT36-0250 425876G |
| Torque min. | | Nm / in.lbs | 0.8 / 7 | 1 / 8.85 | 2 / 17.7 | 2 / 17.7 | 3 / 26.6 | 5 / 44.25 |
| Torque max. *) | | Nm / in.lbs | 4 / 35.4 | 6 / 53.1 | 9 / 79.65 | 12 / 106.2 | 18 / 159.3 | 25 / 221.25 |
| Speed min. | | rpm | 100 | 70 | 50 | 35 | 25 | 20 |
| Speed max. *) | | rpm | 1000 | 740 | 500 | 380 | 280 | 220 |
| Diameter | | mm / in. | 36.5 / 1.42 | 36.5 / 1.42 | 36.5 / 1.42 | 36.5 / 1.42 | 36.5 / 1.42 | 36.5 / 1.42 |
| Length | | mm / in. | 260 / 10 ¹⁵ / ₆₄ | 260 / 10 ¹⁵ / ₆₄ | 260 / 10 ¹⁵ / ₆₄ | 260 / 10 ¹⁵ / ₆₄ | 260 / 10 ¹⁵ / ₆₄ | 260 / 10 ¹⁵ / ₆₄ |
| Weight | | kg / lbs. | 0.84 / 1.8 | 0.84 / 1.8 | 0.84 / 1.8 | 0.84 / 1.8 | 0.89 / 1.9 | 0.89 / 1.9 |
| Noise level | | dB (A) | 62 | 62 | 42 | 62 | 62 | 62 |
| Line voltage (DC) | | V | 48 | 48 | 48 | 48 | 48 | 48 |
| Internal hex drive DIN ISO 1173 | | | F6.3 (1/4") | F6.3 (1/4") | F6.3 (1/4") | F6.3 (1/4") | F6.3 (1/4") | F6.3 (1/4") |
| Suitable inserting tools and connection parts with inserting end DIN ISO 1173 | | | E6.3 (1/4") | E6.3 (1/4") | E6.3 (1/4") | E6.3 (1/4") | E6.3 (1/4") | E6.3 (1/4") |
| Optional equipment: | | | | | | | | |
| Spring sleeve cpl., without screw suction | Part no. | | | | | 364672A | | |
| Spring sleeve cpl., with screw suction | Part no. | | | | | 364672C | | |

*) as per VDI/VDE 2647 Directive



size 36 with push-to-start



size 36 with lever start

Remark:

Details on our feeding systems can be found in brochure D3820E.

SYSTEM COMPONENTS

MINIMAT-EC Screwdriver handheld, Pistol grip, size 27

| Screwdriver | Type | 320EPT27-0010 | 320EPT27-0022 | 320EPT27-0040 |
|---|-----------|---------------|---------------|---------------|
| Trigger-start | Part no. | 403636B | 403636C | 403636D |
| Torque min. | Nm/in.lbs | 0.15 / 1.3 | 0.4 / 3.5 | 0.7 / 6.2 |
| Torque max. *) | Nm/in.lbs | 1 / 8.85 | 2.2 / 19.5 | 4 / 35.4 |
| Speed min. | rpm | 50 | 50 | 40 |
| Speed max. *) | rpm | 1000 | 700 | 400 |
| Weight | kg / lbs. | 0.62 / 1.36 | 0.64 / 1.41 | 0.68 / 1.5 |
| Noise level | dB (A) | 60 | 60 | 60 |
| Line voltage (DC) | V | 48 | 48 | 48 |
| Internal hex drive DIN ISO 1173 | | B3 (3mm) | F6.3 (1/4") | F6.3 (1/4") |
| Suitable inserting tools and connection parts with inserting end DIN ISO 1173 | | A3 (3mm) | E6.3 (1/4") | E6.3 (1/4") |
| Optional equipment: | | | | |
| Spring sleeve cpl., without screw suction | Part no. | 403280A | | 364672A |
| Spring sleeve cpl., with screw suction | Part no. | 403280B | | 364672C |

*) as per VDI/VDE 2647 Directive

MINIMAT-EC Screwdriver handheld, Angle head, size 27, ESD-capable

| Screwdriver | Type | 320EWT27-0022-E6 | 320EWT27-0035-E6 | 320EWT27-0060-E6 |
|---|-----------|-------------------|-------------------|-------------------|
| Lever start | Part no. | 400580B | 400580C | 400580E |
| External square drive DIN 3121 | | E6.3 (1/4") | E6.3 (1/4") | E6.3 (1/4") |
| Connection parts with inserting end DIN 3121 | | | | |
| Internal square drive | | G6.3 (1/4") | G6.3 (1/4") | G6.3 (1/4") |
| Screwdriver | Type | 320EWT27-0022-E10 | 320EWT27-0035-E10 | 320EWT27-0060-E10 |
| Lever start | Part no. | 409902B | 409902C | 409902E |
| External square drive DIN 3121 | | E10 (3/8") | E10 (3/8") | E10 (3/8") |
| Connection parts with inserting end DIN 3121 | | | | |
| Internal square drive | | G10 (3/8") | G10 (3/8") | G10 (3/8") |
| Screwdriver | Type | 320EWT27-0022-F6 | 320EWT27-0035-F6 | 320EWT27-0060-F6 |
| Lever start | Part no. | 409903B | 409903C | 409903E |
| Internal hex drive with quick change chuck DIN ISO 1173 | | F6.3 (1/4") | F6.3 (1/4") | F6.3 (1/4") |
| Connection parts with inserting end DIN ISO 1173 | | | | |
| External hex drive | | E6.3 (1/4") | E6.3 (1/4") | E6.3 (1/4") |
| Screwdriver | Type | 320EWT27-0022-D6 | 320EWT27-0035-D6 | 320EWT27-0060-D6 |
| Lever start | Part no. | 409900B | 409900C | 409900E |
| Internal hex drive for bits DIN ISO 1173 | | D6.3 (1/4") | D6.3 (1/4") | D6.3 (1/4") |
| Connection parts with inserting end DIN ISO 1173 | | | | |
| External hex drive | | C6.3 (1/4") | C6.3 (1/4") | C6.3 (1/4") |
| Screwdriver | Type | 320EWT27-0022-DM6 | 320EWT27-0035-DM6 | 320EWT27-0060-DM6 |
| Lever start | Part no. | 409901B | 409901C | 409901E |
| Internal hex drive for bits with magnet DIN ISO 1173 | | D6.3 (1/4") | D6.3 (1/4") | D6.3 (1/4") |
| Connection parts with inserting end DIN ISO 1173 | | | | |
| External hex drive | | C6.3 (1/4") | C6.3 (1/4") | C6.3 (1/4") |
| Torque min. | Nm/in.lbs | 0.4 / 3.5 | 0.7 / 6.2 | 1 / 8.85 |
| Torque max. *) | Nm/in.lbs | 2.2 / 19.5 | 3.5 / 31 | 6 / 53.1 |
| Speed min. | rpm | 80 | 50 | 30 |
| Speed max. *) | rpm | 800 | 500 | 300 |
| Weight | kg / lbs. | 0.8 / 1.76 | 0.8 / 1.76 | 0.8 / 1.76 |
| Noise level | dB (A) | 60 | 60 | 60 |
| Line voltage (DC) | V | 48 | 48 | 48 |

*) as per VDI/VDE 2647 Directive








size 27
pistol grip
with trigger-start

MINIMAT-EC Screwdriver handheld, Pistol grip, size 36

| Screwdriver | Type | 320EPT36-0040 | 320EPT36-0060 | 320EPT36-0120 | 320EPT36-0180 |
|---|-----------|---------------|---------------|---------------|---------------|
| Trigger-start | Part no. | 400532A | 400532B | 400532C | 400532D |
| Torque min. | Nm/in.lbs | 0.8 / 7.1 | 1 / 8.85 | 2 / 17.7 | 3 / 26.6 |
| Torque max. *) | Nm/in.lbs | 4 / 35.4 | 6 / 53.1 | 12 / 106.2 | 18 / 159.3 |
| Speed min. | rpm | 100 | 70 | 35 | 25 |
| Speed max. *) | rpm | 1000 | 740 | 380 | 280 |
| Weight | kg / lbs. | 1 / 2.2 | 1 / 2.2 | 1 / 2.2 | 1.05 / 2.3 |
| Noise level | dB (A) | 62 | 62 | 62 | 62 |
| Line voltage (DC) | V | 48 | 48 | 48 | 48 |
| Internal hex drive DIN ISO 1173 | | F 6.3 (1/4") | F 6.3 (1/4") | F 6.3 (1/4") | F 6.3 (1/4") |
| Suitable inserting tools and connection parts with inserting end DIN ISO 1173 | | E 6.3 (1/4") | E 6.3 (1/4") | E 6.3 (1/4") | E 6.3 (1/4") |
| Optional equipment: | | | | | |
| Spring sleeve cpl., without screw suction | Part no. | | | 364672A | |
| Spring sleeve cpl., with screw suction | Part no. | | | 364672C | |
| Handle | Part no. | | | 410971 | |

*) as per VDI/VDE 2647 Directive

MINIMAT-EC Screwdriver handheld, Angle head, size 36, ESD-capable

| | | | | | | |
|---|---|-------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Screwdriver |  | Type | 320EWT36-0060-E6 | 320EWT36-0120-E6 | | |
| Lever start | | Part no. | 405646B | 405646C | | |
| External square drive DIN 3121 | | | E6.3 (1/4") | E6.3 (1/4") | | |
| Connection parts with inserting end DIN 3121 | | | | | | |
| Internal square drive | | | G6.3 (1/4") | G6.3 (1/4") | | |
| Screwdriver |  | Type | 320EWT36-0060-E10 | 320EWT36-0120-E10 | 320EWT36-0180-E10 | 320EWT36-0250-E10 |
| Lever start | | Part no. | 410932B | 410932C | 405646D | 405646E |
| External square drive DIN 3121 | | | E10 (3/8") | E10 (3/8") | E10 (3/8") | E10 (3/8") |
| Connection parts with inserting end DIN 3121 | | | | | | |
| Internal square drive | | | G10 (3/8") | G10 (3/8") | G10 (3/8") | G10 (3/8") |
| Screwdriver |  | Type | 320EWT36-0060-F6 | 320EWT36-0120-F6 | | |
| Lever start | | Part no. | 411307B | 411307C | | |
| Internal hex drive with quick change chuck DIN ISO 1173 | | | F6.3 (1/4") | F6.3 (1/4") | | |
| Connection parts with inserting end DIN ISO 1173 | | | | | | |
| External hex drive | | | E6.3 (1/4") | E6.3 (1/4") | | |
| Screwdriver |  | Type | 320EWT36-0060-D6 | 320EWT36-0120-D6 | | |
| Lever start | | Part no. | 410934B | 410934C | | |
| Internal hex drive for bits DIN ISO 1173 | | | D6.3 (1/4") | D6.3 (1/4") | | |
| Connection parts with inserting end DIN ISO 1173 | | | | | | |
| External hex drive | | | C6.3 (1/4") | C6.3 (1/4") | | |
| Screwdriver |  | Type | 320EWT36-0060-DM6 | 320EWT36-0120-DM6 | | |
| Lever start | | Part no. | 411301B | 411301C | | |
| Internal hex drive for bits with magnet DIN ISO 1173 | | | D6.3 (1/4") | D6.3 (1/4") | | |
| Connection parts with inserting end DIN ISO 1173 | | | | | | |
| External hex drive | | | C6.3 (1/4") | C6.3 (1/4") | | |
| Torque min. | Nm/in.lbs | | 1 | 2 | 3 | 5 |
| Torque max. *) | Nm/in.lbs | | 6 | 12 | 18 | 25 |
| Speed min. | rpm | | 75 | 40 | 20 | 15 |
| Speed max. *) | rpm | | 750 | 400 | 240 | 180 |
| Weight | kg / lbs. | | 1.25 | 1.25 | 1.25 | 1.3 |
| Noise level | dB (A) | | 60 | 60 | 62 | 62 |
| Line voltage (DC) | V | | 48 | 48 | 48 | 48 |

*) as per VDI/VDE 2647 Directive



SYSTEM COMPONENTS

MOTOR CABLE

| Motor cable for screwdriver size 27 and 36 | | straight connection | with 90° angle connection |
|--|----------|---------------------|---------------------------|
| Length 2.5 m / 8.2 ft. (standard) | Part no. | 385442A | 385442E |
| Length 5 m / 16.4 ft. | Part no. | 385442B | 385442F |
| Length 8 m / 26.2 ft. | Part no. | 385442C | 385442G |
| Length 12 m / 39.4 ft. | Part no. | 385442D | 385442H |

SEQUENCE CONTROLLER AST5

| | | |
|---|-------------------------|--|
| Suitable for screwdriver | MINIMAT-EC | 320EGA22-..., 320EGT22-.. and 320EGZ22-.. (Page 4) |
| Sequence controller with integrated performance electronics | Type Part no. | AST5 385555A |
| Voltage | V | 24 |
| Power input | W | 150 |
| Display | | TFT-colour display 4.3" |
| 24V input/output interface | | - |
| Ethernet | | yes |
| Number of connectable screwdriver | | 1 |
| Dimensions (W x H x D) | mm / in. | 162 x 143 x 65 / 6 3/8 x 5 5/8 x 2 9/16 |
| Weight | kg / lbs | 1.5 / 3.3 |
| Power supply unit | Part no. | 2041061 (included in delivery) |

Required Accessories

| | | |
|--|----------|--------|
| Power supply cable 230 V length 1.8 m / 5.9 ft. | Part no. | 812587 |
| Power supply cable 115 V length 1.8 m / 5.9 ft. | Part no. | 812295 |

SEQUENCE CONTROLLER AST11

| | | | | | |
|------------------------------------|--|---|--|--|-----------------------------|
| Suitable for screwdriver | MINIMAT-EC MINIMAT-EC MINIMAT-EC | 320EGA/EGT/EGZ22-.. (Page 4) 320EGA/EGT/EGZ27-.., (Page 5) 320EPT27-..., 320EWT27-.. (Page 6) | 320EGA36-..., 320EGT36-.. (Page 5) 320EPT36-..., 320EWT36-.. (Page 7) | | |
| Sequence controller | Type Part no. | AST11-1 390041A | AST11-1-S 390041B | AST11-2 390042A | AST11-2-S 390042B |
| Module „safety stop“ | | no | yes | no | yes |
| Power unit (AC) | V / Hz | 100 - 240 / 50 / 60 | | 100 - 240 / 50 / 60 | |
| Power consumption | W | 400 | | 400 | |
| Insulation | | IP 54 | | IP 54 | |
| LC-display | | 4 x 20 | | 4 x 20 | |
| 24V input/output interface | | 12 inputs / 8 outputs | | 12 inputs / 8 outputs | |
| Membrane keyboard | | yes | | yes | |
| RS 232 Interface | | yes | | yes | |
| Ethernet | | yes | | yes | |
| Amount of connectable screwdrivers | | 1 | | 1 | |
| Dimensions (W x H x D) | mm / in. | 160 x 295 x 200 / 6 19/64x11 39/64 x 7 7/8 | | 160 x 295 x 200 / 6 19/64x11 39/64 x 7 7/8 | |
| Weight | kg / lbs | 5.8 / 12.8 | | 6 / 13.2 | |

Required Accessories

| | | |
|--|----------|---------|
| Power supply cable Length 1.8 m / 5.9 ft. (EU) | Part no. | 385443A |
| Power supply cable Length 1.8 m / 5.9 ft. (USA) | Part no. | 385443B |
| Power supply cable Length 2.5 m / 8.2 ft. (China) | Part no. | 385443C |

| Optional Accessories | suitable for | AST5 | AST11 |
|--|--------------|---------|------------------------------|
| Toolbox | Type | - | TB 7 - AST1x |
| | Part no. | - | 398097B |
| Technical Data: | | | |
| Tool holders | | | 7 |
| Tool size | mm / in. | | up to Ø 24/0.9 (AF 19) |
| Voltage | V | | DC 24 |
| Amperage | mA | | 100 |
| Input/output interface | | - | SUB-D 15-pin connector |
| Start signal | | | 4-pin connector |
| Dimensions (W x H x D) | mm / in. | | 225x50x120 / 8.8x1.9x4.7 |
| Weight | kg / lbs. | | 1.2 / 2.6 |
| Connection cable AST1x-Toolbox | Part no. | | 385451A |
| Fieldbus module Profibus | Part no. | - | 428010A |
| Fieldbus module Profinet | Part no. | - | 428010B |
| Fieldbus module EtherCat | Part no. | - | 428010C |
| Fieldbus module Ethernet IP | Part no. | - | 428010D |
| Required accessories for the fieldbus module: | | | |
| Connection cable AST11 to fieldbus module | Part no. | - | 207725A (EU) 207725B (US) |
| Patch cable (2m) (connection ASTxx - PC) | Part no. | 831902 | 831902 |
| Stand | Part no. | 416004A | 405278A |
| Plug RJ45-IP54 | Part no. | - | 385453A |
| Plug 7-pin (slide connector start clearance/feeder) | Part no. | 833553 | - |
| Touch pen | Part no. | 832190 | |
| Part sensor M18 | Part no. | - | 354841C |
| Printer Type ND350 | Part no. | - | 112462A |
| Interface Graph Loader (hardware and software) | Part no. | 385834A | 385834A |
| Connection cable (ASTxx - Graph-Loader) | Part no. | 385835A | 811420 |
| Software statistics (activation key) | Part no. | 206081 | 206081 |
| Software datalogger (activation key) | Part no. | 202699 | 202699 |
| Software Friction value screwdriving (activation key) | Part no. | 201820 | 201820 |
| Software ASTxx Serial Remote (activation key) for the simple storage of screwdriving curves and result-data to a PC | Part no. | 206565 | 206565 |
| Software WEB-IO 12E/12A | Part no. | 116995 | - |
| Software Graph Viewer (for sequence controller AST) (activation key) | Part no. | 128901 | 128901 |
| Software Deprag Data eXchange (for sequence controller AST) (activation key) | Part no. | 132680 | 132680 |
| Software TIA Link (activation key) | Part no. | - | 135839 |
| Software TwinCAT Link (activation key) | Part no. | - | 140996 |

the toolbox is an available accessory and it may be connected to a PLC: Type TB 7 - PLC, part no. 398097C

For more details to the software products, please see brochure D3900E.



Interface Graph-Loader

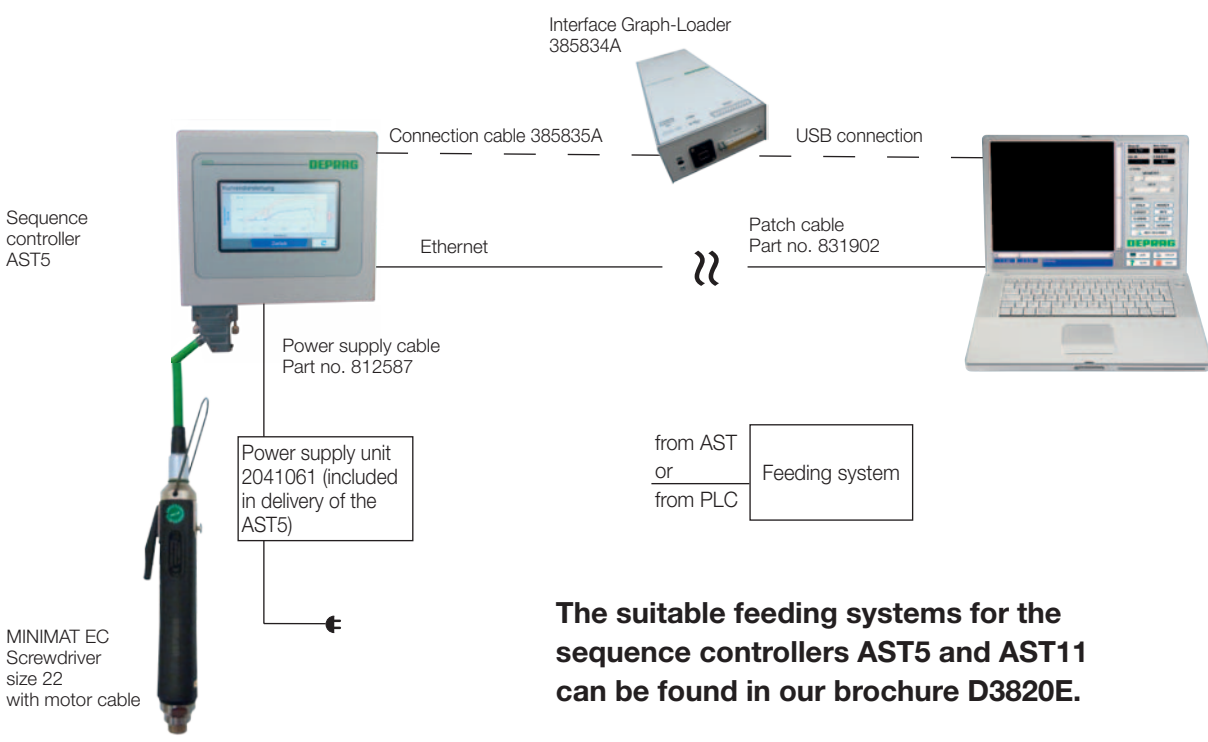
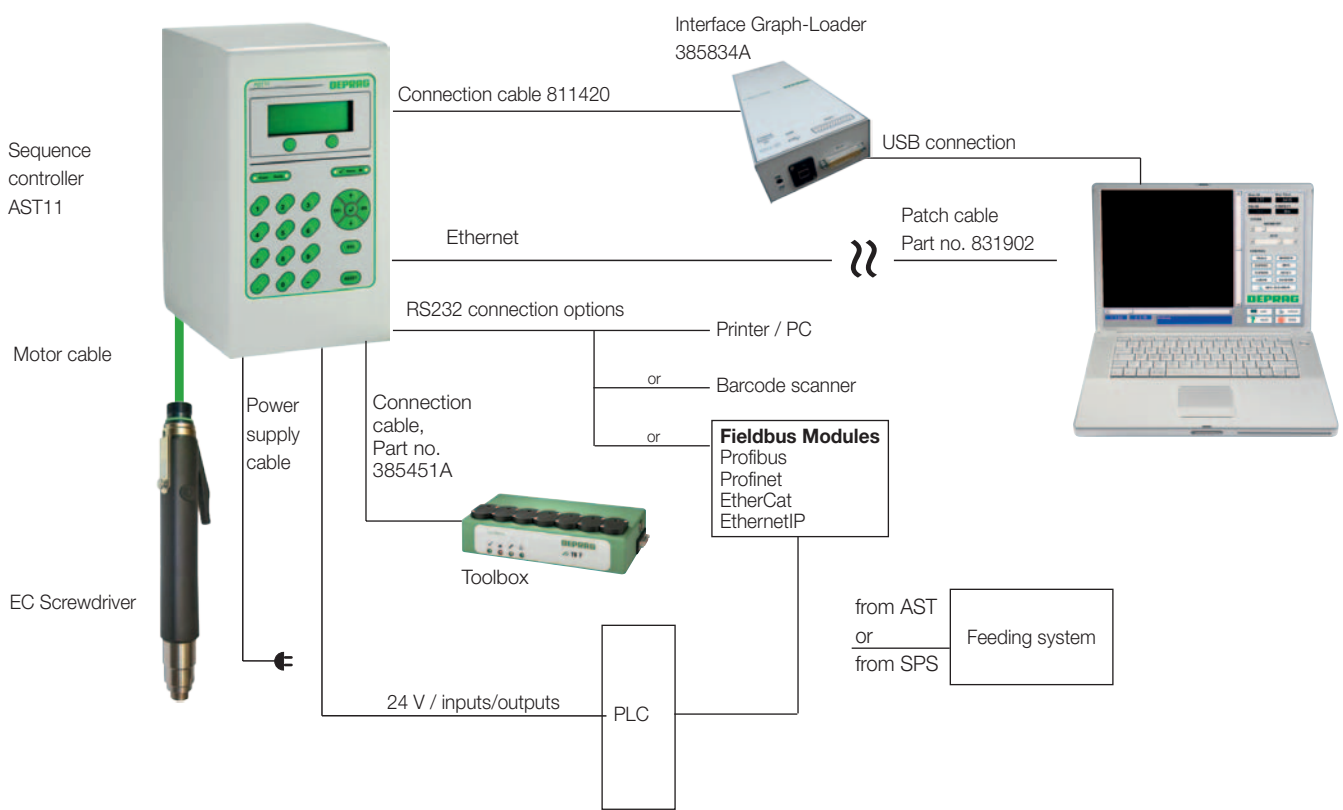


Source: www.epson.de

Printer ND350



Toolbox



The suitable feeding systems for the sequence controllers AST5 and AST11 can be found in our brochure D3820E.

DEPRAG

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